MIT's Oldest and Largest Newspaper

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The Tech
Established 1881

Volume 135, Number 31

Thursday, November 12, 2015

WEATHER, p. 2

THU: 54°F | 48°F
Afternoon rain

FRI: 56°F | 40°F
Breezy

SAT: 49°F | 36°F
Breezy

No. 3 in arts, humanities? Dean hopes ranking spurs interest

At a school where STEM majors outnumber others 19 to 1, writing classes are tailored for STEM mindset

By Divya Gopinath

MIT was recently ranked third globally for arts and humanities and first for the social sciences by the *Times Higher Education* World University Rankings.

The rankings are intended to evaluate "world class universities across all of their core missions: teaching, research, knowledge transfer and international outlook," according to their website. Factors that go into the decisions are staff-to-student ratio, institutional income, research income, research productivity (i.e. number of papers published per student at high-level journals), international-to-domestic student ratio, industry income, and institutional reputation based on a standardized survey.

"Although we recognize that we are writing disciplines, we are mindful that we are at MIT," said Melissa Nobles, the dean of the School of Humanities, Arts and Social Sciences, acknowledging that MIT is better known as a science and engineering school. "We want to appeal to MIT students, and tailor our courses to thinking about the intersections between the arts and the sciences."

All of MIT's humanities and arts departments are small compared to those at schools like Harvard and Stanford, but that allows the average MIT student close access to faculty and relatively small class sizes, Nobles said.

"What I want is the continued visibility and support," Nobles added. "I hope these rankings will encourage MIT students to take a closer look at what they should avail themselves of. The word is out now. Take advantage."

The arts and humanities at MIT are divided into two main institutions: the School of Humanities, Arts, and Social Sciences (SHASS) and the School of Architecture and Planning (SA+P). (MIT is also home to the List Visual Arts Center and various other centers related to the humanities.)

Currently, of undergraduates who have declared a major, 3.5 percent are enrolled in either SHASS or SA+P. The figure for graduate stu-

Humanities, Page 14



LENNY MARTINEZ—THE TECH

A banner hung in Lobby 7 on Tuesday to commemorate the release of the post-apocalyptic role-playing game *Fallout 4*. The game had been in the works since 2009.

MIT researchers recognized at 2016 Breakthrough Prizes ceremony

MIT researchers Edward Boyden, Larry Guth, Liang Fu, and Joseph Formaggio and his team were honored at the 2016 Breakthrough Prize ceremony. The event was held at NASA's Ames Research Center in California this past Sunday.

Boyden was one of five scientists awarded the Breakthrough Prize in Life Sciences, which included an award of $3 million. An associate professor of media arts and sciences, biological engineering, and brain and cognitive sciences, Boyden was honored for his work on the development and implementation of optoge-

Breakthrough, Page 13

2.00 students capture balloons for Pokémon-themed project

Approximately 60 students in the 2.00 Introduction to Design class gathered in Lobby 7 on Monday night to demonstrate their solutions to capturing three "TechBeavers" — helium-filled balloons suspended in the air — as part of their first project, dubbed "Pokécapture."

The Pokémon theme was visible everywhere, from the balloons stamped with a picture of Bibarel (which is, appropriately, the Beaver Pokémon) to the Pikachu costume donned by the class instructor, Professor Maria Yang.

The 12 teams each had two weeks to make a balloon-capturing apparatus using basic materi-

Pokémon, Page 13

Award tries to make stars out of scientists

On stage at Breakthrough ceremony: MacFarlane, Pharrell, Russell Crowe

By John Markoff
NEW YORK TIMES

MOUNTAIN VIEW, Calif. — Movie stars. Red carpet. Awards.

It's a familiar script. Except that the event here Sunday night was far from New York and Hollywood, and the boldfaced names were gathered not to celebrate movies or music, but life sciences, physics and mathematics.

The idea behind the Breakthrough Prize is that if scientists are viewed as celebrities — as cool as movie and rock stars — then more young students will aspire to be scientists (and if the cool factor isn't enough, there are $22 million in prizes handed out each year).

Yuri Milner, a Russian investor, Silicon Valley mogul and theoretical physics dropout, established the prize with Silicon Valley's digerati,

Science stars, Page 13



LENNY MARTINEZ—THE TECH

MIT Ridonkulous performs during Kappa Alpha Theta's philanthropy event Go for the Gold. Go for the Gold, a series of "Minute-to-Win-it" style games, replaced KATwalk as the sorority's signature event. Proceeds from the event all went to Court Appointed Special Advocates, a national network of volunteers who advocate on behalf of children in foster care.

IN SHORT

Drop date is next Wednesday, Nov. 18. This is the last day to cancel subjects from registration or change a subject from Credit to Listener status.

Volunteer to help with Splash Security on Nov. 21–22. You can sign up at *http://esp.mit.edu/security_2015*.

Send news and tips to *news@tech.mit.edu*.

A NEW TAKE ON DAYLIGHT SAVING
Arizonans and Hawaiians celebrate.
CAMPUS LIFE, p. 11

AN OP-ED'S RESPONSE
Exactly what did Mads Gilbert say about 9/11? **OPINION, p. 6**

WORKING ON AN F-1 VISA
What you need to know about the DHS's new proposal. **OPINION, p. 6**



TRICK OR TREAT? OR GROW UP?
With Halloween comes the annual nostalgia.
CAMPUS LIFE, p. 10

BROOKLYN IS TRULY RELATABLE
Our review of the movie starring Saoirse Ronan.
ARTS, p. 8

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WEATHER

Atlantic Ocean gets November hurricane

By Vince Agard
STAFF METEOROLOGIST

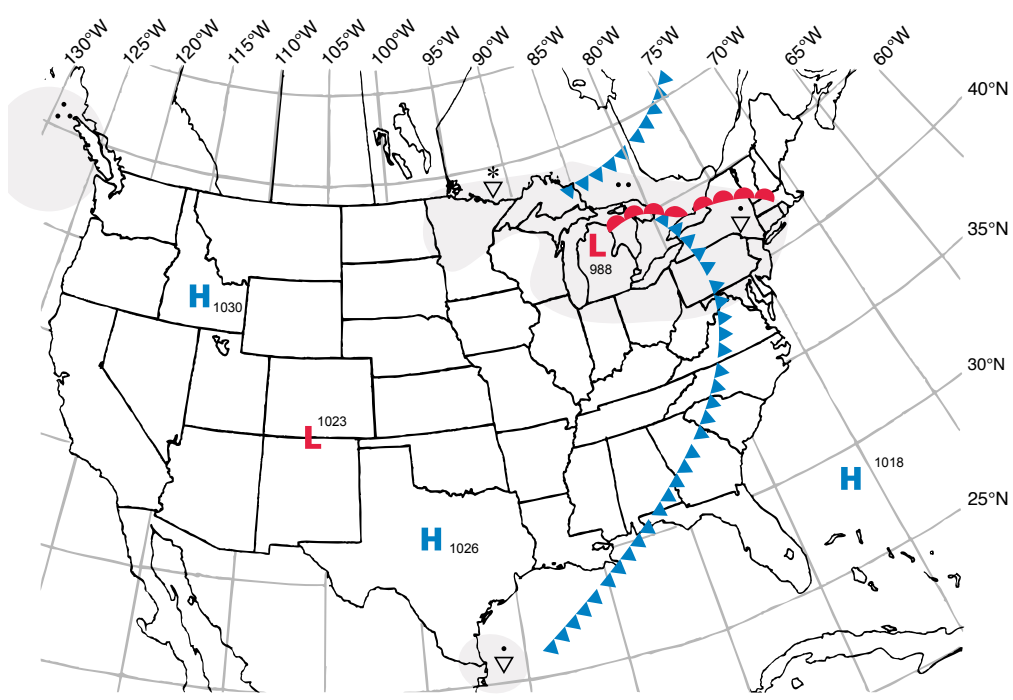
Although autumn is in full swing here in New England, the Atlantic hurricane season is still in session. In fact, the Atlantic basin is currently experiencing its fourth hurricane of 2015, as Tropical Storm Kate was officially upgraded to hurricane status on Wednesday morning. A weak Category 1 hurricane with sustained winds of 75 mph, Kate is forecast to weaken and become a post-tropical storm later today as it moves out to sea without impacting any major land areas.

Although hurricanes are warm-season storms, they often form well after the summer season has concluded. This is possible because they derive their energy from the heat of the sea surface, which remains warm later in the year due to the ocean's great heat capacity. Kate is far from the latest tropical cyclone to form in the Atlantic basin: Twice in recorded history a tropical storm has formed on Dec. 30 and lasted into the next year (one of these, Alice in 1954-55, attained hurricane status).

Closer to home, a strong storm that produced both blizzard and tornado warnings in the central United States on Wednesday will pass to the north of our area today. However, those extreme conditions will not be materializing at the Institute. Instead, expect rain showers this afternoon and evening before a cold front passes through later tonight.

Extended Forecast

Today: Rain in the afternoon and evening. High 54°F (12°C). Winds S at 10–15 mph.
Tonight: Rain ending overnight. Low 48°F (9°C). Winds becoming W at 10–15 mph.
Tomorrow: Partly cloudy and breezy. High 56°F (13°C). Winds W at 10–20 mph.
Tuesday: Sunny and breezy. High 40s°F (9°C).



Situation for Noon Eastern Time, Thursday, November 12, 2015

Weather Systems	Weather Fronts	Precipitation Symbols			Other Symbols
H High Pressure	Trough		Snow	Rain	Fog
L Low Pressure	Warm Front	Showers	✻ ▽	• ▽	Thunderstorm
§ Hurricane	Cold Front	Light	✻	•	Haze
	Stationary Front	Moderate	✻✻	••	
		Heavy	⁂	∴	

Compiled by MIT Meteorology Staff and *The Tech*

Students who have experienced gender-based violence turn to a friend FOR SUPPORT.



You can also turn to Violence Prevention & Response (VPR) @ vpradvocate@med.mit.edu.

IT'S ON US

MIT

Solution to Money

from page 4

P	E	R	P	S		F	E	S	S		C	A	M	P
I	M	O	U	T		L	U	M	P		L	I	A	R
T	I	A	R	A		A	R	E	A		A	N	T	I
S	T	R	I	K	E	G	O	L	D		S	T	E	M
			S	E	X			L	E	T	S			
S	C	A	T		P	A	L	S		H	A	C	K	S
E	O	N		S	A	G	A		S	E	C	R	E	T
M	A	K	E	O	N	E	S	F	O	R	T	U	N	E
I	S	L	A	N	D		S	A	N	E		D	Y	E
S	T	E	R	N		S	O	D	A		R	E	A	L
			M	Y	T	H			T	E	E			
G	U	R	U		H	I	T	P	A	Y	D	I	R	T
A	S	O	F		E	V	I	L		I	S	T	O	O
L	E	A	F		M	E	N	U		N	E	E	D	S
A	R	M	S		E	R	A	S		G	A	M	E	S

Solution to Crooked

from page 5

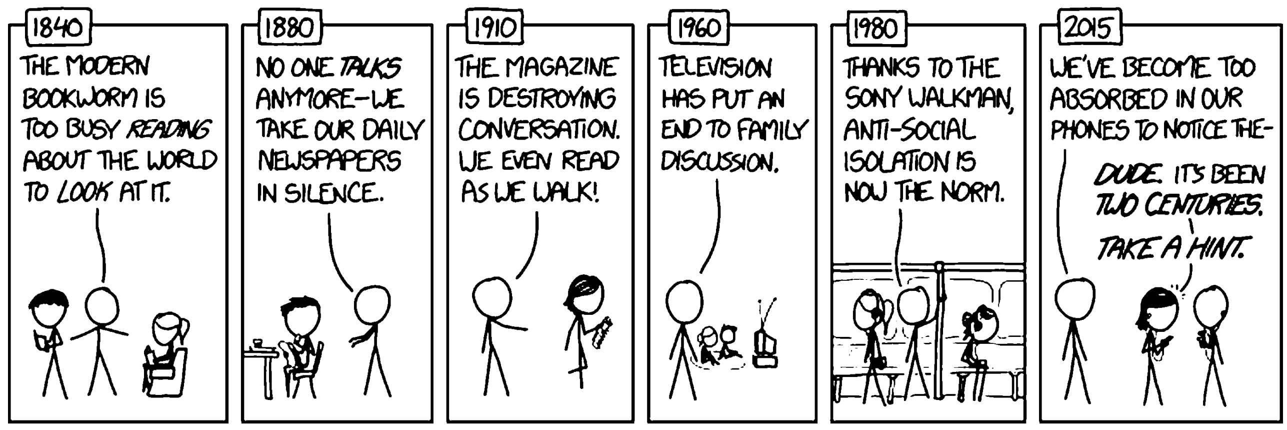
W	A	F	E	R		I	D	I	O	M		J	I	M
A	L	I	V	E		T	I	L	D	A		E	D	U
S	A	F	E	C	R	A	C	K	E	R		W	E	T
P	I	E	R		A	L	E	S		C	H	E	A	T
			M	A	N	Y			S	H	I	L	L	S
E	S	C	O	R	T		P	A	L	E	S	T		
A	L	A	R	M		A	R	B	O	R		H	O	P
V	O	T	E		S	L	E	E	T		T	I	N	E
E	B	B		F	E	A	S	T		P	I	E	C	E
		U	N	L	E	S	S		G	O	L	F	E	R
A	F	R	A	I	D			T	O	I	L			
R	I	G	H	T		W	H	E	E		A	O	N	E
I	L	L		T	R	A	I	N	R	O	B	B	E	R
S	E	A		E	A	G	L	E		F	L	O	R	A
E	R	R		D	W	E	L	T		F	E	E	D	S



Fun

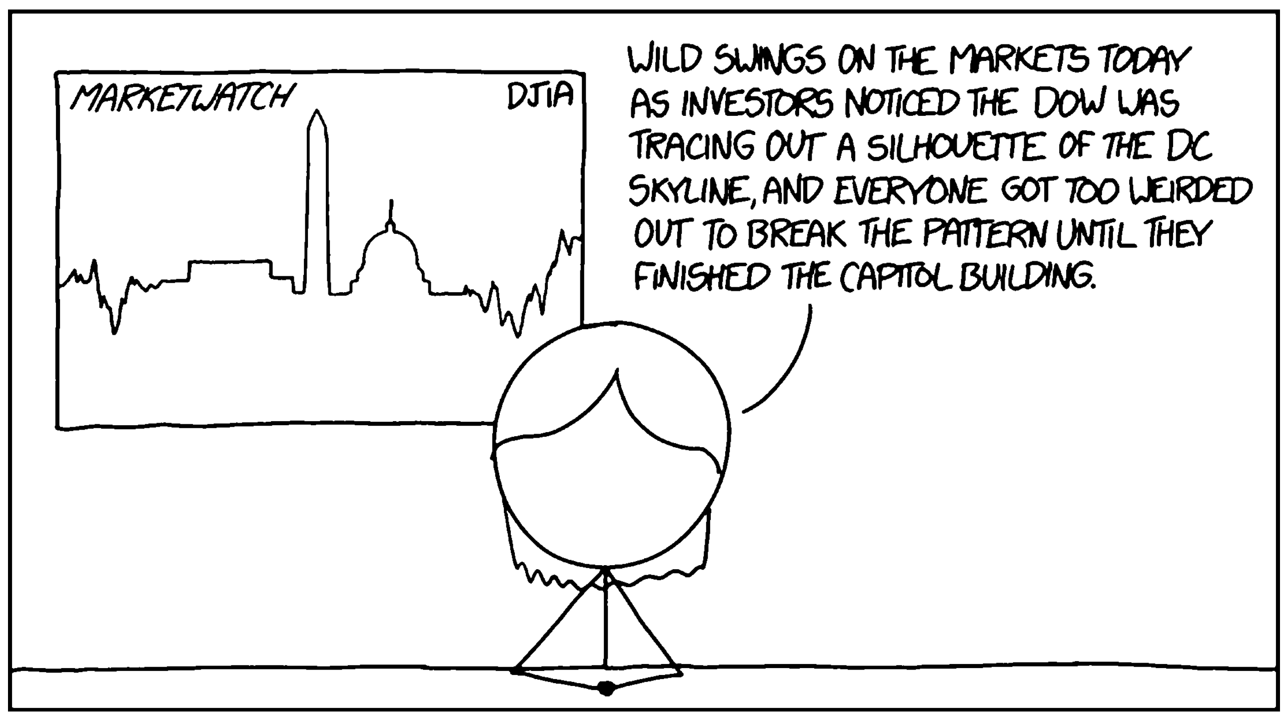
xkcd
A webcomic of romance, sarcasm, math, and language
by Randall Munroe

[1601] Isolation



2060: The gregarious superintelligent AI, happily talking its way out of a box, is fast becoming a relic of the past. Today's quantum hyper-beings are too busy with their internal multiverse sims to even notice that they're in boxes at all!

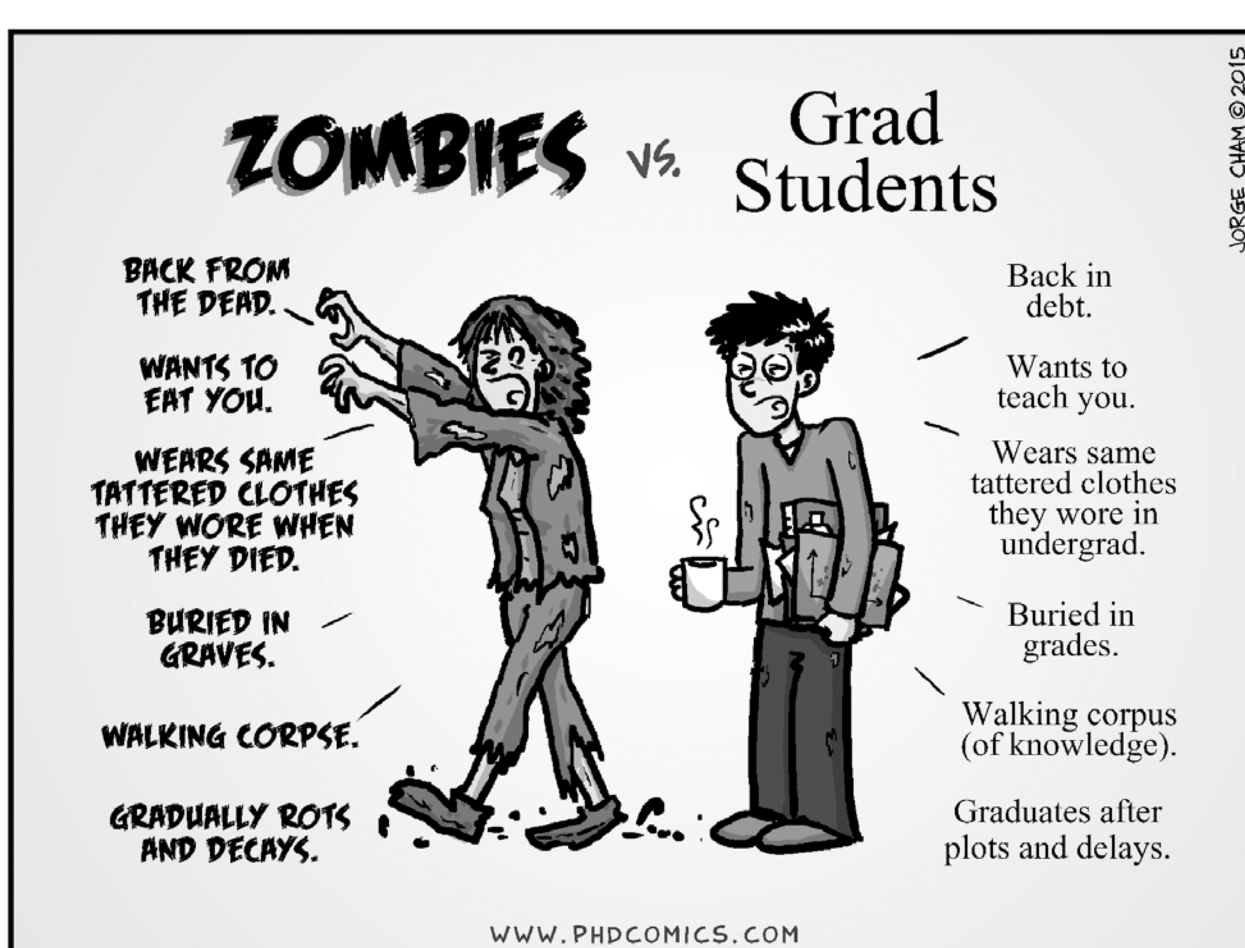
[1600] Marketwatch



Markets have been rocked by a second day of uncertainty after someone set up a giant Ouija board on the NYSE wall controlled collectively by the movement of the stock tickers.

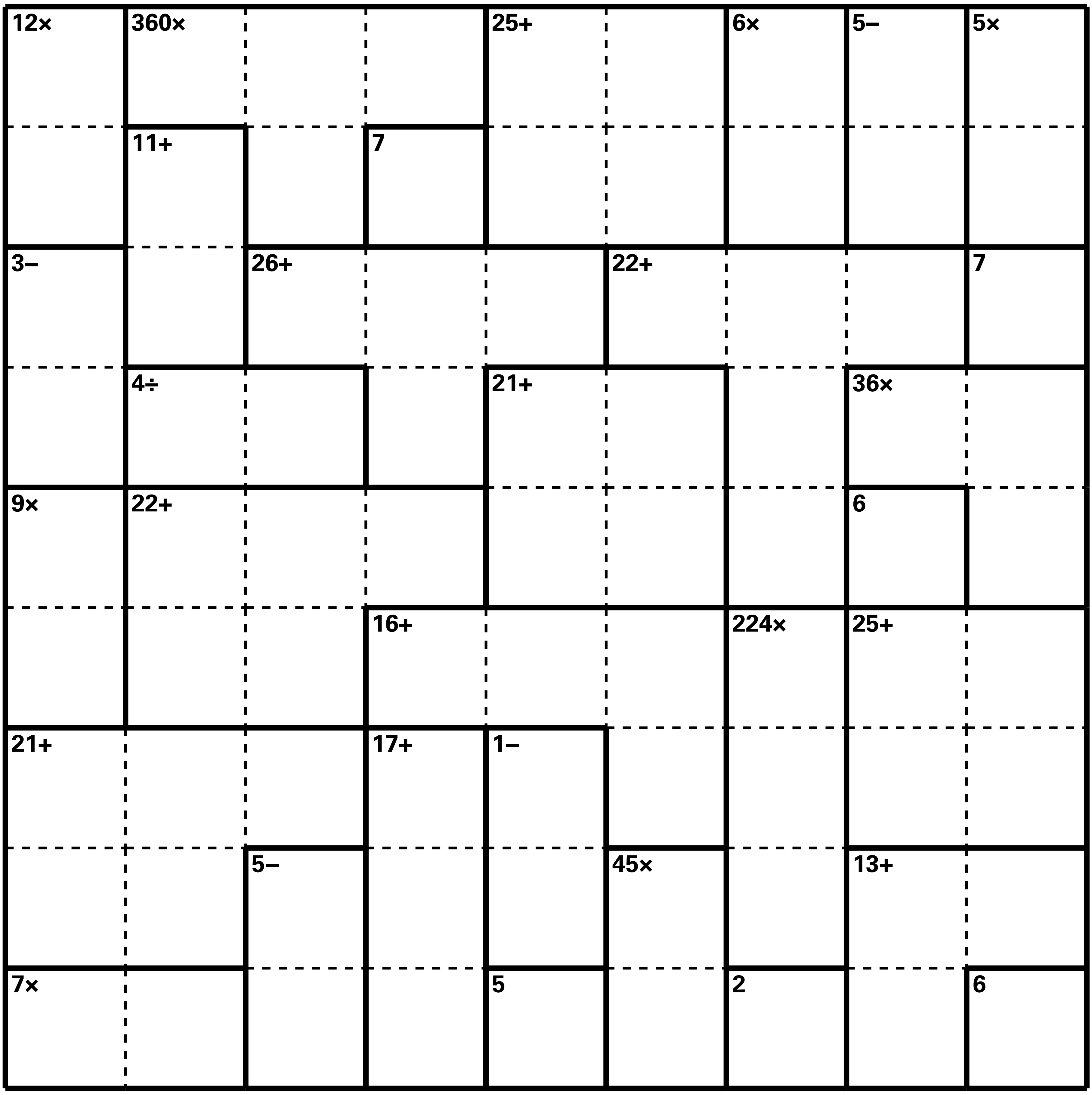
PhD — Piled Higher and Deeper
by Jorge Cham





Jimmy McMillan

Solution, page 12



Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–9. Follow the mathematical operations for each box.

In the Money by Billie Truitt

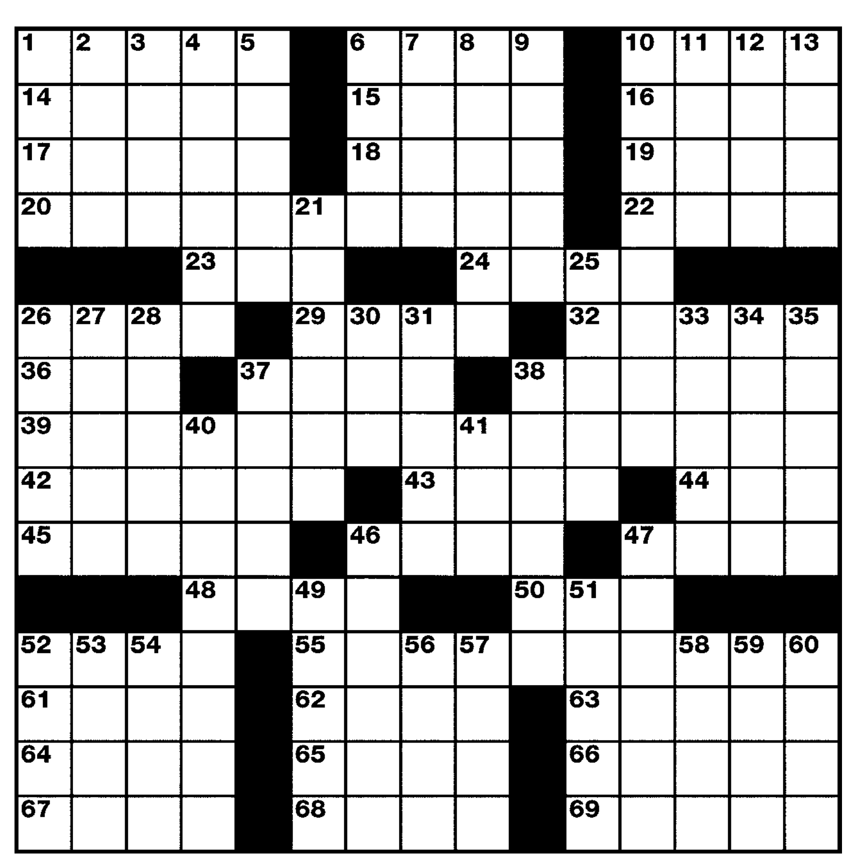
Solution, page 2

ACROSS

1 What cops call crooks
6 __ up (admit the truth)
10 Pitch a tent
14 Poker player's quitting comment
15 Sugar cube
16 Untruthful one
17 Pageant crown
18 Neck of the woods
19 Prefix meaning "against"
20 Have quick success
22 Flower stalk
23 Gender
24 "Sure, I'm game!"
26 "Shoo!"
29 Close friends
32 Mediocre writers
36 Long, long time
37 Epic tale
38 Hush-hush
39 Become successful gradually
42 Maui or Sicily
43 Rational
44 Give a new hue to
45 Not at all lenient
46 Fizzy drink
47 Authentic
48 Ancient legend
50 Golf peg
52 Wise mentor
55 Have quick success
61 Starting from
62 Wicked
63 Response to "Not so!"
64 Bit of foliage
65 Diner's directory
66 Requirements
67 Sleeves cover them
68 Historic periods
69 Chess and checkers

DOWN

1 Peach discards
2 Give off
3 Lion's warning
4 Stickler for correctness
5 Tent post
6 The Stars and Stripes
7 Money in France
8 Gets a whiff of
9 Small garden shovel
10 Admirable person
11 Is not, informally
12 Husband or wife
13 Overly formal
21 Open more stores
25 In that place
26 Four-team tourney rounds
27 Shoreline
28 Sock-covering joint
30 Improve, as wine
31 Cowboy's rope
33 Inelegant
34 Nairobi's nation
35 Alloy in girders
37 Little fella
38 Piano piece
40 Winter headgear
41 Fleeting craze
46 React to the cold
47 Obstacle for Moses
49 Unifying idea
51 Looking at
52 Festive event
53 Software buyer
54 Wander
56 Fey of 30 Rock
57 Besides
58 News article
59 Took a bus or train
60 Mix, as a salad



Chris Christie

Solution, page 12

5						8	2	3
			5		2			
9			3	6		7		
2					7		8	4
3								2
8	7		4					6
		2		1	3			8
			7		4			
4	9	3						7

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

George Pataki

Solution, page 12

432×		12+		11+	
	2×				15×
	360×		8×	1	
2				18×	
150×			1		24×
4×			1–		

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.

Rick Santorum

Solution, page 12

		1	6		4	5		
2	4				9			
	8			7				
	9	6					2	5
4		3				6		7
7	1					3	4	
				2			3	
			9				5	6
		4	3		8	2		

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

Lindsey Graham

Solution, page 12

216×			10×	20×	
		6		8×	
300×					3
1–	8×		72×		
		4		1–	
5		6×		1–	

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.

Crooked Quartet by Bill Weber

Solution, page 2

ACROSS
1 Thin cookie
6 Figure of speech
11 Henson of the Muppets
14 Still in the game
15 Actress Swinton
16 End of MIT's URL
17 Vault specialist
19 Drenched
20 Docking locale
21 British brews
22 Peek at the answers
24 Quite a few
26 Con game decoys
27 Chaperone
30 Least vivid
32 Warning signal
33 Shady retreat
34 Move like a bunny
37 Cast a ballot
38 Winter weather
39 Pitchfork part
40 Recede
41 Eat well
42 Section
43 Except when
45 Mickelson or McIlroy
46 Fearful
48 Work hard
49 Starboard side
50 "This is fun!"
52 High in quality
56 Under the weather
57 Wild West outlaw
60 Bering or Adriatic
61 National bird
62 Plant life
63 Go wrong
64 Resided
65 Serves brunch to

DOWN
1 Flying stinger
2 Jai __
3 Small flute
4 Henceforth
5 Button on a DVR
6 Boot-shaped nation
7 Monopoly cubes
8 Categories
9 Keats creation
10 Certain parade participant
11 Diamond specialist
12 Best possible
13 Mongrels
18 Raise the roof
23 That guy's
25 Sleeve filler
26 Pigeonhole
27 Roof overhang
28 Messy one
29 Climbing specialist
30 Printing machine
31 Aid in wrongdoing
33 "What a shame"
35 In the past
36 Jury member
38 Start a garden
39 Fit for cultivation
41 Moved like a moth
42 Luau food
44 "Nope"
45 Suffix for theater
46 Stand up
47 Manicurist, often
48 Moral principle
50 Hourly salary
51 Spot for sledding
53 Bassoon cousin
54 Geek
55 Historical periods
58 Uncooked
59 Out of whack

1	2	3	4	5	■	6	7	8	9	10	■	11	12	13
14					■	15					■	16		
17					18						■	19		
20				■	21				■	22	23			
■	■	■	24	25			■	■	26					
27	28	29				■	30	31					■	■
32					■	33					■	34	35	36
37				■	38					■	39			
40			■	41					■	42				
■	■	43	44					■	45					
46	47					■	■	48				■	■	■
49					■	50	51			■	52	53	54	55
56			■	57	58					59				
60			■	61					■	62				
63			■	64					■	65				

OPINION

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LETTERS TO THE EDITOR

The repercussions of a single op-ed

Last week, Isaac Silberberg published an op-ed in *The Tech* accusing the MIT Arab Students Organization (ASO) and Palestine@MIT of bringing a “9/11 supporter,” Mads Gilbert, to campus. As I read Isaac’s article, I felt his pain in losing a friend during the terrible attacks that befell our country fourteen years ago. I also felt apprehension and concern, because I knew what would happen after the op-ed was read by others: suspicion would fall once more upon MIT’s Arab community at large. I am not part of the ASO or Palestine@MIT, but I have many wonderful friends who are. Did Silberberg think these kind-hearted and intelligent people (in other words, typical MIT students) would bring a terrorism sympathizer to campus?

I wanted to give Isaac the benefit of doubt; perhaps he was simply misinformed. I didn’t know of Mads Gilbert before reading Isaac’s op-ed. But I do know how to Google and ran a search for “Mads Gilbert.” Webpage after webpage celebrating Gilbert’s achievements: Treating trauma victims in Norway. Volunteering and treating patients in the Shifa hospital in Gaza, despite medicine shortages and power outages. Criticizing war and violence, from the Vietnam War to the invasion of Iraq.

How could someone think Gilbert to be supporter of terrorism? I realized sadly that the op-ed I was reading was one more piece in what has become a cottage industry of articles designed to discredit Arab and Palestinian activists.

> **The life works of Mads Gilbert should cause one to hesitate before reducing him to a 9/11 supporter.**

The facts about Mads Gilbert: Gilbert grew up in Norway and was trained as an anesthesiologist. In 2000, his team revived Anna Bagenholm, who was pronounced clinically dead after an hour of being trapped beneath frozen waters. During the 2008-2009 Israel-Gaza conflict, Gilbert joined humanitarian efforts in Gaza to treat patients, the vast majority of whom were civilian victims of Israeli airstrikes. For his work, Gilbert received numerous awards and widespread praise by the Norwegian public, the prime minister, and social commentators around the world.

His life’s works alone should cause one to hesitate before reducing Gilbert to a 9/11 supporter, even if it were not for his pronouncements that he is against the terrorist attack in New York. Even Gilbert’s original statement, which he has regretted and rescinded, is misrepresented in Isaac’s op-ed. It actually reads: “I am upset by the terrorist attack, but I am at least as upset over the suffering that the U.S. has caused. It is in this context that 5,000 dead has to be seen. If the U.S. government has a legitimate right to bomb and kill civilians in Iraq, the oppressed has a moral right to attack the U.S. with the weapons they may create as well. Dead civilians are the same whether they are Americans, Palestinians or Iraqis.”

I write this letter not for the sake of Gilbert, nor the ASO and Palestine@MIT. Their reputations have been stained, and the damage has been done. I write this for the future, recognizing that we live in an interconnected age where information spreads faster than ever before. An article that is written by a single person is shared by tens and is read by tens of thousands. Seeds of misinformation can be sowed, reaped, and replanted many times unimaginably quickly.

Thanks to digital and social media, we are all citizen-journalists. When misinformation abounds, none of us are entirely free from responsibility. Let us strive to become better citizen-journalists by diversifying our news sources, challenging our own assumptions, and sharing only the information that we have verified as true.

Abubakar Abid
Graduate student in the Department of Electrical Engineering and Computer Science

GUEST COLUMN

Weighing in on the proposed changes to the STEM OPT Extension

Encouraging and troubling rules for international students

By Yuqing Cui, Daniel Curtis, and Connie Gao

MIT is home to a large number of international students on F-1 student visas. In the 2014-2015 academic year, 42 percent of the graduate student body was composed of international students. Most of these students apply for the Optional Practical Training (OPT) program after graduation in order to work in the U.S. in their field of study. Every international student who completes a post-secondary degree in the U.S. on an F-1 visa is eligible for 12 months of OPT. Since 2008, those who complete a degree in a STEM field have also qualified for a one-time 17-month extension of OPT. This extension, however, was recently challenged in court by the Washington Alliance of Technology Workers, and this August, the District Court for the District of Columbia vacated the STEM OPT Extension on the grounds of procedural deficiency. The court order is set to take effect in February 2016.

On Oct. 19, the Department of Homeland Security (DHS) published a proposal for “Improving and Expanding Training Opportunities for F-1 Nonimmigrant Students With STEM Degrees and Cap-Gap Relief for All Eligible F-1 Students.” The proposed rule seeks to remedy the procedural deficiencies of the original STEM OPT Extension, ensure that the extensions can continue beyond February, and make several additional changes to the rules and procedures. We applaud some of its key features but are concerned by others, and we feel that the MIT community should be informed.

The proposed rule is significantly different from the previous STEM OPT extension rules. In order to help international students understand the important changes, the Legislative Action Subcommittee (LASC) of the MIT Graduate Student Council has analyzed and summarized the changes in an infographic accompanying this article. Most importantly, the new rule would lengthen the STEM OPT extension from 17 months to 24 months. We are excited to see this change, which brings the total duration of OPT for STEM majors to three years. This should be sufficient for F-1 students to secure a great deal of practical training and make meaningful contributions to U.S. research, technology development, and product development.

The proposed rule also specifies that a STEM extension can now be based on a previous STEM degree from an accredited U.S. institution, and the number of allowed extensions is increased to two. This provision is extremely relevant for STEM students pursuing additional higher degrees such as an M.B.A, M.D., or J.D. This recognizes their added value to the U.S. economy, as they develop interdisciplinary skills, advanced technical training, and knowledge in broader topics such as business administration and public policy.

The proposed rule contains a new requirement that each student on OPT create an individual Mentoring and Training Plan (MTP), which must be approved by the employer and presented to the university’s international student office prior to the OPT extension. The MTP must elaborate on the learning opportunity, specific goals, relevance to the STEM field, compensation, and other details. Employers must attest in the MTP that they have sufficient resources to provide training, that compensation is commensurate with U.S.

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CORRECTIONS

Last Thursday’s article on the new MIT.nano building incorrectly stated that the chemistry teaching labs would be located in the basement. In fact, they will be on the top floor of the building.

OPINION POLICY

Editorials are the official opinion of *The Tech*. They are written by the Editorial Board, which consists of Chairman Will Conway, Editor in Chief Leon Lin, Managing Editor Anthony Yu, Executive Editor Kath Xu, and Opinion Editor Claire Lazar.

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Working on a student visa? Write to DHS.

What international students need to know about a proposed rule

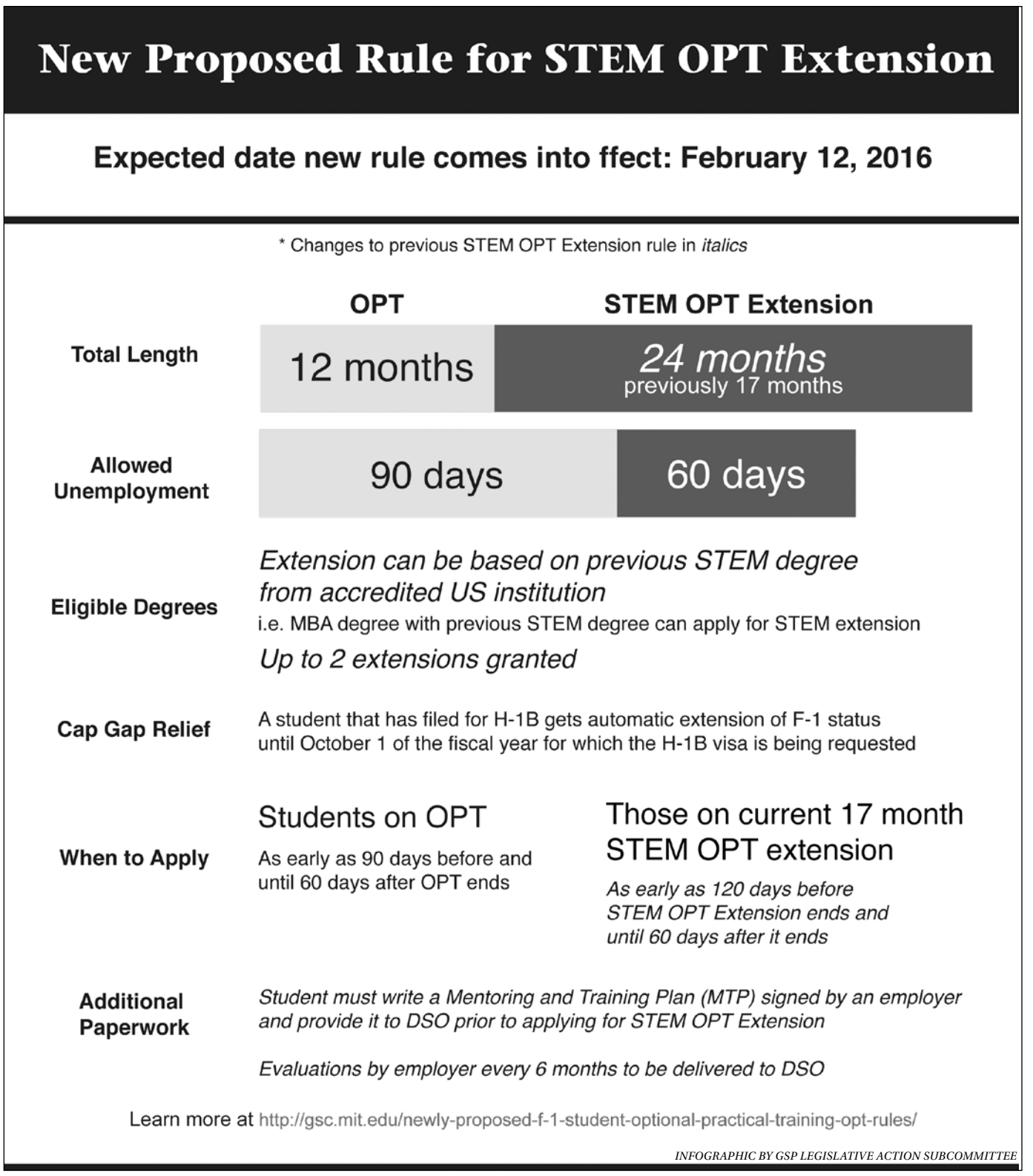
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workers, and that no U.S. workers are displaced because of the OPT students. The extra administrative burdens placed on employers through MTP may potentially deter employment of F-1 STEM students, which is troubling. While a formal mentoring plan is welcome, the strict attestation requirement from employers may have a serious negative effect on STEM student employment, especially by small companies that lack legal and administrative resources.

LASC is also concerned that the ability of students to make use of the STEM OPT Extension might be disrupted by upcoming court actions and delays in this rulemaking process. We commend DHS for responding quickly to recent developments, and it is important for them to continue working quickly to ensure students on STEM OPT Extensions can keep working as we approach and pass the court's February 2016 deadline.

Overall, LASC strongly supports the OPT program and the STEM OPT Extension. We also applaud the implementation of Cap-Gap Relief for smoothing the transition between F-1 and H-1B visa status. Individual international students can submit their own letters to DHS through the Federal Register, as it may be particularly valuable that DHS receive a large volume of personalized messages from many individuals that support this important program.

The authors of this column are members of the Legislative Action Subcommittee of the Graduate Student Council, which advocates on behalf of MIT's graduate students in Washington D.C. on issues such as immigration reform.







MOVIE REVIEW

Brooklyn holds a mirror up to every college student

Saoirse Ronan stars in an Irish immigrant's tale of transformation

COURTESY OF KERRY BROWN AND TWENTIETH CENTURY FOX

Saoirse Ronan as Eilis Lacey in *Brooklyn.*

By Carolyn Fu
STAFF WRITER

Anyone on this campus knows what it feels like to leave home for a new place. The sights and sounds are different, the culture unfamiliar, the knowledge eye-opening. Everything around you is new — but surprisingly, after some time, you discover that you are new as well. Every experience starts to impact what you believe, how you act, and eventually, the very core of who you are. And never has this evolution been so perfectly captured as in the film *Brooklyn*.

Brooklyn follows the story of Eilis Lacey (played — nay, inhabited — by Saoirse Ronan), a young woman in Ireland who finds little to look forward to in her small hometown, and so moves to Brooklyn, New York for a job and an open-ended future. It is set in the 1950s, which might not seem like a relatable period for the modern traveller. Yet when Eilis asks how long letters from Ireland take to arrive, and the answer is "a long time at first, and then no time at all" — one recognizes how time dilates the more eagerly you wait for something, and knows exactly what that means.

The city towers imposingly at first sight, even when Eiliis spies it through a gap in the crowd. Soon, that city envelops her with its customs, responsibilities, friendships, romance — and despite being initially overwhelmed, she emerges with the latest cat-eye sunglasses and a doting Italian-American boy. Unfortunately, however, circumstances force her to temporarily return home, and the life she has made in New York is suddenly contrasted with against the one she left behind. Eilis is then faced with the choice of not just what she wants, but about who she wants to be.

The film strikes the audience as simple and straightforward. There is nothing showy about the visuals, dramatics, characters or script — instead, every one of these cinematic elements is subtly tuned to lend a beautiful honesty to the story. From the giddy gossiping of boarding mates over dinner to awkward romantic insinuations on a bus ride, every moment is rich in authenticity.

And none of this is possible without Ronan's truthful performance at the center of it all. The latest in her long line of mature and thoughtful performances, this role allows her to shine especially brightly, perhaps because of its familiarity. She herself is from mixed New York and Irish origins, and in a call with The Tech, Ronan shared that the role coincided with a transformative time for herself, when she went through "every kind of stage that [the audience sees] Eilis reaching and overcoming."

It was out of similar identification with Eilis that I in fact found *Brooklyn* incredibly difficult to watch personally. Having come to America 10 years ago for college, then returned home to Singapore, then come back yet again — I felt that every step in Eilis' journey had a piercing resonance. With a pang in my heart, I immediately understood the somber truth of her statement that her life is not in one land or the other, but "halfway across the sea." I watched keenly, hoping that her story would give me guidance — looking to it like a mirror that could, as Ronan shared, "perfectly articulate exactly how you feel," and in so doing, provide safety and understanding.

This is essential viewing for every college student — us who have little idea what version of ourselves waits on the other side. It asks the imperative question of 'Who will you be?' with a simplicity that is overwhelming.

★★★★★

Brooklyn

Directed by John Crowley

Starring Saoirse Ronan

Rated PG-13

Now Playing

MOVIE REVIEW

The Pearl Button would be better off as two separate documentaries

Its slow paced sequences and abrupt mood shifts leave much to be desired

By Karleigh Moore
ARTS EDITOR

The Pearl Button promised to be a poetic and thought-provoking documentary about Chile's 2,670 miles of coastline and the significance of water for indigenous tribes in Patagonia (a region that includes Chile and Argentina as well as several South American islands). I didn't know much about the history of Chile or its native peoples, but I was eager to learn. The documentary, however, did not live up to my expectations, and I was rather surprised by how uninspiring I found much of the film. Its slow pace and low information density makes each scene drag on — I often expected a scene to cut minutes before it actually did. Guzmán incorporates voice-overs, photographs, interviews with tribal elders, grainy black-and-white clips, outer-space CGI (which felt supremely out of place), and long takes of coastal scenery (which were beautiful, and perhaps the best part of the experience). However, the documentary's biggest weakness is that it is abruptly split into two seemingly disjoint parts.

The first half is relatively light-hearted; we witness a man walking about outside imitating, in song, the sounds of the nearby river. We learn that water in all forms has a near sacred status for these tribes — they would canoe thousands of miles, setting up camps along the coast, and members of the tribe would learn dive to collect shellfish at a young age. Interviews and voice-overs tell of the tragic genocide of these indigenous peoples, and to illustrate this further, Guzmán asks tribe elders to translate words like "ocean," "beach," and "canoe" into their tribe's language — only a handful of people living today speak the language. This half moved slowly, and the narration of overly basic facts about water felt out of place next to the rich ethnographic quality of the conversations with the elders.

The second is much heavier thematically with a political and historical slant. One moment, an old woman recounts a canoeing journey, then we learn a tad more about colonialism, and suddenly the film dives into the secret imprisonment and torture of political dissidents in Chile in the 1970s. We watch the filmmakers recreate the death of a political prisoner (with a mannequin), going as far as to throw the "body" into the sea from a helicopter (a fate that befell more than 1,200 prisoners).

The documentary's strength is its visual impact, but the breathtaking scenes of coastline and the insightful interviews with the tribe's elders don't make up for the its lack of focus and the abrupt shift between the two parts. The first half was okay, the second half was good, but the way the parts were forced together made for an overall confusing and disappointing experience.

★★☆☆☆

The Pearl Button

Directed by Patricio Guzmán

Not Rated

Now Playing

RESTAURANT REVIEW

A make-your-own hummus bowl eatery opens up in Kendall

Tahaza Hummus Kitchen brings fresh, creative flavors to the table

By Tara Lee
ASSOCIATE ARTS EDITOR

Fast casual eateries seem to be popping up left and right these days, and I think it's wonderful. Bon Me and Clover are two great local ones, and I never have anything against Panera or Shake Shack, even if they are national chains. Compared to the average sit-down restaurant, they save time and money, and the quality of food isn't too shabby either.

Over by the Cambridgeside Galleria, Tahaza Hummus Kitchen just opened up this past September as a fast casual Mediterranean eatery — think Chipotle, but with hummus. Before I even ordered, I was thoroughly impressed by the atmosphere of the place with its wooden accents and contemporary interior. It's exactly what you'd imagine an organic, locally-sourced-everything kitchen to look like.

Anyway, onto the food. There are four items to choose from: a hummus bowl, a warm grain bowl, a salad, and a wrap. I went with the hummus bowl and had to choose from three hummus flavors: original, beet, and roasted red pepper. Not deciding to be terribly adventurous, I went with original, and they proceeded to smear the edges of my bowl with a thick layer of hummus. From there, I chose to have lamb as my protein (the other options are chicken, beef, mushrooms, and falafels) and filled my bowl with tons of vegetables. For my dressing, I went with the fresh mint yogurt, and chose to have pita bread as my side.



TARA LEE—THE TECH

Hummus bowl from Tahaza Hummus Kitchen in Kendall Square.

A lot of the uber-healthy, organic eateries that I've been to tend to be vegetarian, which is fine, but it's always nice to find one that offers protein options other than tofu or peanut sauce. I was a huge fan of my hummus bowl's lamb, which had a juicy, savory flavor. The mint yogurt dressing was the perfect complement to the lamb, and the toppings like cucumbers and pickled beets added a fresh bite. The hummus was a pleasant touch to the toppings, but it was thoroughly mixed into the rest of my bowl that I didn't get to try it by itself.

My friend, Krystal, came along and tried the warm grain bowl with beet hummus and slow-cooked beef. "The bowl had a creative combination of flavors, but it was just too salty for me to completely enjoy it," she explained. I took a few bites from her bowl, and I could tell what she meant. Her bowl's beet hummus was on the salty side, and so along with the slightly salty beef, the entire bowl was overwhelmed by salt.

We also tried the blackberry verbena and raspberry lime house-made sodas, and those were quite interesting. The blackberry verbena soda was fine, and I tasted more blackberry than verbena. The raspberry lime soda, however, was unsweetened, so it was a bit jarring to go from the sweet blackberry verbena to the raspberry-lime-flavored seltzer water.

Nevertheless, while it seems like the kitchen is still working out a few kinks, I had an overall positive experience at Tahaza Hummus Kitchen. The food is pricier side, with the hummus bowl starting at $9.25 and toppings like lamb tacking on an additional $2.25, but it's worth a try the next time you find yourself at the Cambridgeside Galleria.

★★★★☆

Tahaza Hummus Kitchen

One Canal Park

Cambridge, MA 02141

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This space donated by *The Tech*

THE FIRST YEAR

Tricks, treats, and defeat

An attempt to relive my childhood

By Chloe Yang
STAFF WRITER

There are few text messages in this world that would prompt me to ditch a Chipotle burrito bowl and sprint back to campus. These anomalies include: "fountain of youth sprung from burst New House pipe," "Random Hall milk gained sentience," and "free pizza at Burton-Conner front desk." On Halloween night, while taking advantage of the burrito discount, I received one such text of immense motivational caliber.

"Are you still going trick-or-treating? We're leaving at 8:30."

This text may seem uninteresting to some and even cringe-y to others. Not in my eyes; this was a summoning, a reminder of the festivities friends and I had planned. When winds sweep September away in a gust of fallen leaves and wrinkled psets, my Halloween countdown begins. I rarely have concrete plans for the night (with the exception of this year), nor do I have set expectations. Rather, the memories of past Halloweens — grade school parties, nights rich with the promise of candy, and It's the Great Pumpkin, Charlie Brown — are enough to conjure up my somewhat irrational giddiness.

As a bona fide college student, I wasn't sure how (or if) I would celebrate. A week before the big night, my plans consisted of psetting to the Nightmare Before Christmas soundtrack and checking behind doors for mischievous suitemates. A few days before the 31st, though, a friend suggested we do the unimaginable: trick or treat. Before I knew what I was saying, I found myself squealing an affirmation along with my fellow psetters. The decision was unanimous — we would revisit our 8-year-old selves and wander the streets for candy.

Fast forward to Halloween night. By the time I returned to my floor, I was greeted by the tail end of frenzied costume preparation. Friends wrapped up their duct tape embellishments and scrounged for candy bags as I slapped on some black makeup befitting a panda. An upperclassman in the suite, our surrogate parent, swooped in with last-minute costume help. We headed for the T as a makeshift posse of characters — my panda self was accompanied by two matching skeletons, a soccer player, a ninja, James from Team Rocket, a banana, and "a gift from the heavens" (a boxy costume with an appropriately labeled gift tag). By the time we made it to Beacon Hill, a prime candy neighborhood suggested by my Bostonian suitemate, it was 10:30 p.m. From the lack of excited children, we quickly realized that 10:30 p.m. (though early evening for us) was well past bedtime for most kids. Nevertheless, we'd made the trip; we decided to soldier on.

Up until the moment came to knock on our first door, our excitement was unflappable. We were reliving our golden years, when nap times were scheduled into our school days, when we complained about 20-minute worksheet assignments, when it was acceptable to visit random houses for candy. Faced with the reality of knocking on a stranger's door, though, our enthusiasm collectively ground to a halt.

We shuffled up the steps together, remembering the herds of sketchy teens in slapdash costumes that visited our own homes on Halloween. We had become those vultures, pecking desperately at the leavings of our childhoods, clinging to those unapologetic days when the scariest thing about Halloween was receiving Butterfingers when Twix was the ideal sugar delivery system.

We knocked tentatively at a few houses, targeting the ones with flamboyant decorations. Together, we weathered a few polite rejections and a number of doors that remained shut. Eventually, though, our knocks were greeted by a pair of small princesses.

"Sorry, we're out of candy," one of them chirped as the other fidgeted beside her.

As the door closed, we exchanged a sheepish look. "That felt so weird," someone laughed nervously, voicing our shared thought as we scuttled away down the street. We took this jarring role reversal — small children turning the teenage trick-or-treaters away from their door — as a sign that we should call it quits.

We could have surrendered and retreated back to campus, but Halloween wasn't over yet. We needed some sugar in our systems. After unsuccessfully searching for an open shop to frequent, we decided to make the 15-minute walk to Chinatown and settled into a cozy bubble tea place. Clutching our cups of iced tea and boba, we claimed a table by the window and played raucous rounds of Uno with the shop deck for hours.

We left the neighborhood with bags full of rejection. Yet, I found myself as happy as the moment I received my friend's text. Yes, we didn't receive any candy; yes, I'd felt trepidation asking for sweets at first; yes, I had to accept the fact that I cannot relive my childhood. Nevertheless, with each closed door, I felt the weight of my self-consciousness lighten.

Though our trick or treating did not go as planned, I had fun walking through Boston, talking with my floormates, and arguing gleefully over who screamed "Uno!" first. Though we could not celebrate Halloween as we did when we were younger, we at least propelled ourselves from our comfort zones and gave it a shot.

I may not have had the Halloween I was anticipating, but I would not trade this year's experience for any other. Though it was scary to knock on doors as a college student, it is even scarier to think that had we been weighed down by our "failure," our night together would never have happened. As long as I can still tap into the unabashedness of my child self, the memories I make will at least fuel my eagerness for the years to come. I cannot wait to open my own door to a motley crew of teens one day, to answer their "trick or treats!" with a fistful of the childhood dreams that they (and I) still pine for.

Chloe Yang is a member of the Class of 2019.



ILLUSTRATION BY JESSIE WANG

THE FIRST YEAR

Thank you, PE

Staying active

By Michal Shlapentokh-Rothman

Stinky gym uniforms, awkward locker room conversations, and getting hit in the head with a basketball. These are just a few of the horrid memories I have of high school PE. Yeah, not exactly how I wanted to spend my freshman year of high school.

So imagine my face when I saw the mandatory PE requirement at MIT. I did not want to relive high school PE, where I would finish my first lap around the track and everyone else would be on their fifth. I did not want to embarrassingly try to play softball and strike out again.

But now, as I try to get through my first semester at MIT, I could not be more thankful for my PE classes.

MIT is filled with lectures, psets, and a lot of time spent sitting. Combine this with large amounts of unhealthy free food lying around, stress eating, and short walks to Toscanini's, and you produce the perfect freshman 15. Luckily, PE classes decrease the chances of this happening, and provide mental health benefits too.

Within the first ten minutes of both my first quarter PE class, indoor soccer, and my current PE, kickboxing, I was already a hot mess. Sweat poured from body and I unfortunately looked like I had just ran a marathon. A lot of the sweat came from the fact that I was super out of shape, but at least 5 percent of it came from the fact that I was forced to move.

On the first day of indoor soccer, I didn't expect much. It was soccer, the sport of kicking a ball. How hard could it be? But before we even got to playing, we had to do warmups.

OK, I thought. This was going exactly how I expected it to because I knew I could handle warmups. I mean what are warmups but just pretending to stretch my legs?

When my PE instructor started going over our actual "warmups," though, my jaw almost dropped. He wanted us to run across the floor, and kick our feet as high as they could go while walking. I could already hear my legs groaning.

Then the self-consciousness hit in. As we started doing our warmups, I realized that everyone was at least two steps ahead of me. Was I really that out of shape? Even though my body was ready for a nap after warmups, my classmates seemed to have more energy than ever. I realized how fortunate it was that PE was graded on participation, not on performance.

About halfway through, we started playing games. This was when the real sweat broke out. While I did very little to contribute to the team, I did contribute significantly to my health — by constantly running up and down the court after a ball that never quite seemed to go wherever I wanted it to go.

PE class provided a justification for Saturday morning tater tots. That extra sugar cookie. Those bowls of French fries. But to eat all of those things, I needed to go to the next level: kickboxing.

Whenever I tell someone that I am in kickboxing, they usually assume it means that there are punching bags, boxing gloves, and lots of physical contact — especially the kind that involves injuring others. That thankfully isn't the case, since I probably would have ended up with a black eye by now if so. Instead, the class consists of an intense cardio/aerobic workout.

Kickboxing is a class that begins right away. All of a sudden, loud music starts to play and you are supposed to watch the teacher at the front of the room perform "moves" that more often than not resemble hilarious dance moves from the '90s. I always try to stand in the back so that I can't look at myself in the giant mirror at the room; I can't even fathom how absurd I look jumping from squats to lunges.

When kickboxing starts, it doesn't stop. Not only is there constant music, but there is always some sort of exercise going on. Our instructor usually tells us to get water whenever we need it, but before I dash to my water bottle, I look around. I don't want to be the only person out of breath after one set of jumping and punching. Luckily, my classmates are more fearless than I am and always get water, sometimes even before the class has even begun.

Not only is the workout so good from kickboxing that I'm comfortable walking in shorts afterwards when it's 45 degrees outside, it is also quite entertaining. Many of our exercies look eerily similar to classic old school dance moves, like the lawn mower. Who knew that I'd get to exercise and perfect '90s dance routines for the next party in a kickboxing class?

PE classes may be great for my physical health, but there is definitely a mental component too. I, along with the rest of MIT, spend most of my day sitting. The sitting can be productive, but it can also be quite stressful. When I sit, it usually means I'm trying to figure out a hard 8.01 problem or think about all of the psets I didn't do this past weekend.

I've heard a thousands times (mostly from an overly concerned mother who tries to get me to lose weight) that working out is good for mental health. This used to sound like one of those random unfounded pieces of advice, but not anymore. I honestly have never felt the effects of intense exercise until I started running up and down soccer courts and perfecting my uppercut punch in PE classes this year. Don't get me wrong, there is still some stress that goes along with PE — like the fact that I get tired after five minutes of working out or that the PE registration system resembles the Hunger Games. But the beautiful thing is that everything else in my life is set aside for 40 minutes. No tests, no psets, no essays. Just working out.

Now, if you are looking for a way to lose 30 pounds or de-stress your entire life, I can't promise that the GIR PE classes will do it for you. It is true that having another part of your day scheduled, when the lives of MIT students are already bursting at the seams with commitments, isn't fun either.

But I can promise that it's worth it. So, take a PE class. Not only is it a graduation requirement, but it is something that provides benefits beyond your physical health. Besides, who doesn't enjoy eating that extra chocolate chip cookie and not feeling guilty about it? I know I do.

Michal Shlapentokh-Rothman is a member of the Class of 2019.

THE FIRST YEAR

Saving time and turning back the clock

The real holiday of November 1

By Nina Lutz

Last week, a few select individuals on campus celebrated another holiday on Nov. 1: a moment of quiet victory for everyone who adores sleep. Just last week, many of us experienced our very first daylight saving time switch.

"Ever since I moved out of Arizona, I've been waiting for this weekend. There's a special event going on this weekend. Everyone's been talking about it, so I'm super excited for it. I'm sure we can all guess what I'm talking about— the switch from daylight time to standard time. (You thought I was talking about Halloween? I guess that's going on too. Minor details.)"

That was what my friend Matt M. '19 posted on Facebook the day of Halloween. Honestly, no piece of writing on Facebook has emotionally resonated with me like this post. I even took the five seconds to put down my sandwich and comment "THIS." All caps. That's effort.

Daylight savings time is a relatively simple, albeit slightly inconvenient, concept that almost everyone here is used to. With smartphones and computers, we don't even have to worry much about it. Our devices do the turning for us.

Unless you're from Arizona or Hawaii, that is. We do not observe daylight saving time. Our clocks stay steady and we never have to worry about it. It was something we were all aware of, taught about in schools, and told about by friends and family in other states. But all that changed for us was the time slots of a few TV shows.

> **An extra 3600 seconds is beautiful. A reminder of time's strange magic and a chance for introspection.**

There are a few reasons for this phenomenon. (All were probably told to us at some point in our history classes.) When our states were founded, advancements like electricity made the daylight saving time system basically irrelevant. Furthermore, the sunny weather didn't make changing the clock an attractive option during the winter. In World War II, Arizona only participated in DST for one summer because people quickly became frustrated that they had to keep the air conditioning running longer. While there are several other reasons and nuances, at the end of the day, it's just a nice privilege and something that I never had to think about. Just another quirk.

In anticipation of daylight saving time, I even purchased a clock way back in August. And on Nov. 1, I got to turn it back. I think, in a way, it was my "We're not in Arizona anymore" moment, just as MIT was my technicolor (it was invented here, after all).

Leaving home is a little strange for everyone, I think. Some people are homesick, others aren't. Some call every week, others just don't. Leaving our homes and coming to MIT solicit reactions of relief, bittersweetness, and freedom. Sometimes all at once.

I don't feel homesick or nostalgic. But I've come to find a new home here, in my little room in my little entry in the tallest dorm on campus, even with a view that consists of the waste disposal between us and New House construction. And turning that clock back solidified that home for me, in space and time and the carpet I should definitely vacuum soon.

Everyone is familiar with MIT time: things starting five minutes late and ending five minutes early because we're always going to the next thing. But MIT time is powerful in its ability to make the days fly. To keep you so busy that you look down and suddenly realize that it's 9 p.m. and you forgot to eat lunch. I feel like I've been here only a day, yet it's been longer than two months.

So I set the clock back, thinking about how time was changed for me here. I'm different than I was when I first arrived. But it's going fast. I want more time. To cling to P/NR as long as I can and savor every minute because they're all so potent.

Maybe that's part of the reason I was thankful for DST. Maybe I want a way not to set the clock back, but to slow it down.

"Everyone else here is going on like this is a normal occurrence. I guess for them it is. To an Arizonan, however, this extra hour is so beautiful ..." As I continued reading Matt's post, I realized it was true. Really, really true.

An extra 3600 seconds is truly a beautiful thing. A reminder of time's strange magic and a chance for introspection.

Now, as I blissfully ignore the fact that the clocks will take away an hour in spring, allow this Arizonan to indulge in the fall for just a bit longer.

Nina Lutz is a member of the Class of 2019.

MIT application essays that worked

'Is that a paperclip, or the trigger to my next crossbow?'

This is part of a series of MIT application essays submitted by students who were later admitted to the Institute. The following prompts are from the 2010-11 admissions season.

Prompt

We know you lead a busy life, full of activities, many of which are required of you. Tell us about something you do simply for the pleasure of it. (100 words)

Response

To an outside observer my average Sunday in fall may look uneventful; I sit in the same worn corner of my couch and watch football — for hours. But while others see all the action on the screen, my mind is an unseen arena. How many yards has Tom Brady thrown for today? How about this year so far? I mentally compute averages and weigh possibilities of breaking records, hoping for that incredible statistical game. Regardless of the score, however, I will be back to my tattered corner the next Sunday — once again a recluse, captivated by the numbers.

Prompt

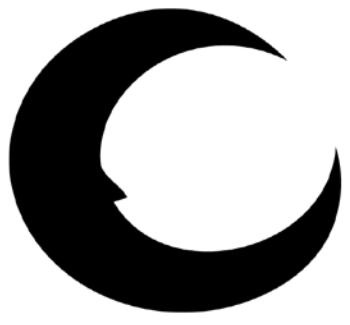
What attribute of your personality are you most proud of, and how has it impacted your life so far? This could be your creativity, effective leadership, sense of humor, integrity, or anything else you'd like to tell us about. (250 words)

Response

Take a look at a typical desk and what do you see? Some see a piece of paper and tape; I see easier-to-use steel and the perfect cement. Is that a paperclip, or the trigger to my next crossbow? I look through the eyes of a resourceful creator — a quality in which I take quiet pride. My creations originated when I was young and sat in my dad's office. Bored out of my mind, I began making a slingshot out of a stack of extra paper. Over time the artifacts evolved from simple things such as a suit of armor made from repurposed newspaper to crossbows and Ferris wheels. Regardless of the project's complexity, the basic concept remains the same: I take stray objects and create something cool, at least to me. Of course not everyone agrees; my mom doesn't think a crossbow properly decorates the dining room table, and time presents a challenge. I often think of imaginative ideas after dinner as I'm clearing my plate. Within a few minutes, I am hooked and there is no stopping me until the project is done, so sleep suffers.

While I enjoy school, sports, and time with family and friends, I take pride in my self-proclaimed masterpieces since they are born of my resourceful efforts — not predetermined building kits. My mind swirls with excitement as my Ferris wheel spins with the press of a paper clip. Soon I'll join others with a similar desire for creation and my paper will be replaced with steel and tape with cement. But for now when I am not hustling between commitments, you can find me in the office, foraging through supplies as my mind races unconstrained.

—Harry Rein '15



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MIT POLICE

Solution to Chris

from page 5

5	6	7	1	4	9	8	2	3
1	3	8	5	7	2	4	6	9
9	2	4	3	6	8	7	5	1
2	1	6	9	3	7	5	8	4
3	4	9	8	5	6	1	7	2
8	7	5	4	2	1	3	9	6
7	5	2	6	1	3	9	4	8
6	8	1	7	9	4	2	3	5
4	9	3	2	8	5	6	1	7

Solution to Rick

from page 5

9	3	1	6	8	4	5	7	2
2	4	7	5	1	9	8	6	3
6	8	5	2	7	3	9	1	4
8	9	6	4	3	7	1	2	5
4	5	3	1	9	2	6	8	7
7	1	2	8	5	6	3	4	9
1	6	9	7	2	5	4	3	8
3	2	8	9	4	1	7	5	6
5	7	4	3	6	8	2	9	1

Solution to George

from page 5

3	6	1	5	4	2
4	1	2	6	5	3
6	3	4	2	1	5
2	5	6	4	3	1
5	2	3	1	6	4
1	4	5	3	2	6

Solution to Lindsey

from page 5

1	6	3	2	5	4
4	3	6	5	2	1
6	5	2	1	4	3
3	2	5	4	1	6
2	1	4	3	6	5
5	4	1	6	3	2

Solution to Jimmy

from page 4

2	5	8	3	9	4	6	7	1
6	9	3	7	4	8	1	2	5
8	2	5	9	6	1	3	4	7
5	8	2	6	3	7	9	1	4
1	4	7	2	8	3	5	6	9
9	3	6	1	7	2	4	5	8
4	7	1	5	2	6	8	9	3
3	6	9	4	1	5	7	8	2
7	1	4	8	5	9	2	3	6

Know something important we should write about?

(*We probably don't know about it.*)

Let us know.

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Zuckerberg, others give scientists star treatment at event

3 from MIT recognized at award ceremony packed with celebrities

Science stars, from Page 1

including Sergey Brin of Google; Anne Wojcicki of 23andMe; Jack Ma of Alibaba and his wife, Cathy Zhang; and Mark Zuckerberg of Facebook and his wife, Priscilla Chan.

> **He pointed to scientists like Albert Einstein and Richard Feynman, who once had celebrity status. "We peaked 50 years ago and it has been a downward slope since then," he said.**

Now in its third year, the awards ceremony has taken only baby steps toward Milner's dream of a global audience of between 50 million and 100 million people. Though it was broadcast live for the first time Sunday night, on the National Geographic cable channel, Milner acknowledged there was still a ways to go before the Breakthrough Prize has a breakout moment of its own.

"We are at the very beginning of this journey," he said, noting that if you were to look at a list of the top 100 celebrities in American society, there would not be a single scientist on the list.

"The question is why?" he added.

The entire world, including both the United States and Russia, has moved in the wrong direction in the past 50 years in terms of how scientists are perceived, Milner said. He pointed to scientists like Albert Einstein and Richard Feynman, who once had celebrity status. "We peaked 50 years ago and it has been a downward slope since then," he said.

And so the organizers brought in some star power and glamour to help reverse the slide. Thomas Keller, the American chef who created the French Laundry restaurant in Yountville, California, catered the event at NASA's Ames Research Center, in a transparent tent in the shadow of the vast skeleton of the Hanger One airship base.

The award presenters included the actors Russell Crowe and Hilary Swank. Pharrell Williams, the singer, songwriter and producer, performed. The evening was hosted by Seth MacFarlane, the comedian and producer, who played to the tech-centric crowd with riffs about anti-science Republican presidential candidates.

"It is thrilling to be here in the same room as some of the smartest people in the world," MacFarlane began. "Or as Donald Trump calls you, 'egghead idiots.'"

The event gamely tried to capture the spirit of the Academy Awards, even if the competitive tension was missing. A glossy video celebrates each prize winner, and the trophies are awarded in each category by Hollywood celebrities paired with Silicon Valley chief executives.

In a sign of the unity the night promoted, the former Silicon Valley power couple of Brin and Wojcicki, who are divorced, appeared on stage together to present a Life Sciences award to the British Alzheimer's researcher John Hardy.

During the awards ceremony, a number of the presenters extolled their favorite high school science teacher for inspiring them. To underscore the importance of earlier science education, the Breakthrough Prize this year added a Junior Challenge, as a fourth category. It was won by Ryan Chester, 18, a high school senior from North Royalton, Ohio, for producing a video explaining Einstein's special theory of relativity.

Chester, however, said in an interview that he was not planning to study science in college, but instead will probably study film, hopefully at a school like the University of Southern California or New York University.

The prize does have a scientific impact, said Jennifer Doudna, a professor of chemistry and molecular cell biology at the University of California, Berkeley, and a prize-winner last year.

"I would say it has an impact on students," she said. "I get regular email from students who are inspired not just by the prize but by the attention it places on science, and that's a wonderful thing."

For his part, Milner underscored the organic relationship between science and Silicon Valley. Noting that science is always at the root of new technologies, he pointed out that quantum mechanics underlies not just the microelectronics industry, but a large fraction of the entire gross domestic product of the United States.

"It's all based on pure fundamental discoveries made 100 years ago by people who were not thinking about smartphones," he said. "They were thinking about fundamental science."

> **"I get regular emails from students who are inspired not just by the price but by the attention it places on science and that's a wonderful thing."**

Other winners this year included two neuroscientists, Karl Deisseroth of Stanford and Edward S. Boyden, of MIT, who collaborated on the development of a technique known as optogenetics which permits detailed observations of the activity of neurons in the brain. Helen Hobbs, a cardiology researcher at the University of Texas Southwestern Medical Center, who advanced the understanding of the role of a particular gene in high cholesterol and heart disease, also won a life sciences award. In physics, the prize was given to a community of 1,300 physicists led by seven researchers who have shed new light on the basic structure of subatomic particles known as neutrinos. Ian Agol won a math prize and Svante Paabo, an evolutionary geneticist, won a life sciences award.

"The main element is getting young people interested," said Arthur B. McDonald, a physicist who leads a team of researchers at the Sudbury Neutrino Observatory in Ontario, Canada. "The idea is that there are still major things to be done."

Pokémon, from Page 1

als, such as foam boards, string, and aluminum foil. During the project presentation, each team had five minutes to "capture" three balloons suspended by plastic clamps on string suspended across the second-floor balconies of Lobby 7.

One team constructed a pivoting jaw-like apparatus mounted on a long foam stick that opened gradually around the balloon when pushed against it from underneath. "Teeth" at the ends of the apparatus held the balloon in place as it was pulled from the clamp. This team successfully captured all three balloons without popping or losing them. Other teams were less fortunate in their Pokécapture endeavors, as evinced by the presence of a dozen or so TechBeaver balloons floating underneath the roof of the dome by the end of the night.

After their presentations were finished, the teams immediately began to break down their projects. Yang expressed satisfaction with the class's performance, saying that "everyone did very well". Students appeared unconcerned about the fates of the escaped Pokémon trapped under the dome.

—Vivian Zhong

Breakthrough, from Page 1

netics, a biological technique that uses light to control living cells, such as neurons, that are typically light-sensitive.

The Breakthrough Prize in Fundamental Physics was awarded to 1,300 physicists for studies in neutrino oscillations, including associate professor of physics Formaggio, assistant professor of physics Lindley Winslow, and their team.

Guth, a mathematics professor, was awarded the New Horizons in Mathematics Prize, and assistant professor of physics Liang Fu received the New Horizons in Physics Prize. Both prizes were awarded in recognition of junior researchers who have contributed substantial work to their respective fields.

The Breakthrough Prizes were established three years ago by a group of Silicon Valley moguls, including Yuri Milner, Julia Milner, Sergey Brin, Anne Wojcicki, Mark Zuckerberg, Priscilla Chan, Jack Ma, and Cathy Zhang. Their goal is to bring important figures of the science and technology communities into the public eye.

Some of the presenters of the awards were famous actors such as Russell Crowe, Lily Collins, and Hilary Swank; Grammy Award winner Pharrell Williams also performed during the ceremony. Seth MacFarlane, the Hollywood producer and comedian, hosted the event along with the prize's co-founders.

—Patricia Z. Dominguez

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Deans of SHASS and SA+P react to top rankings

SHASS's Nobles says MIT's humanities, arts, social sciences have always been strong

Humanities, from Page 1

dents is 13.7 percent.

Nobles said that SHASS tries to gear its classes for an MIT mindset.

"The sources of creativity happen outside a lab," she said. "A brilliant scientist or engineer may gain inspiration from a piece of art or music. Our instruction tries to say to students: We know there's a mode of scientific inquiry that MIT students come with. They want logic, they want clarity, and they want to see the inner workings of things."

Nobles explained that MIT HASS classes not only focus on the purpose of the humanities, arts, and social sciences in our lives, but also on the mechanics; it teaches students not only why they should appreciate poetry but also how to actually write a poem. It's the practicality of MIT SHASS, Nobles said, that appeals to a student body that is obsessed with the real-world implementations of an idea.

MIT's departments have always focused on interdisciplinary work and looked at the humanities as a lens through which the sciences could become clearer, according to Hashim Sarkis, dean of SA+P. He said that since federal funding is now tending to favor scientific and engineering initiatives, other schools are shifting towards a scientific front, but MIT is already operating under this model and has been since its inception.

In partial explanation of the high rankings, Nobles mentioned MIT's study abroad program, the MIT International Science and Technology Initiative (MISTI), which was originally established in SHASS as a facet of the political science department. It's that sort of international engagement and presence in SHASS research that causes MIT to rank highly in "international outlook" and research citations, according to Nobles.

Both SHASS and SA+P have been around for a while: SHASS was established in 1861 and has been a formal school since the 1950s, and SA+P is the oldest school of architecture of world.

"Once MIT established SHASS, they had to be in the game," Nobles said. "It was just a question of building our faculty and putting our resources behind it, which we certainly accomplished." Modern linguistics, for example, was largely founded by Professor Noam Chomsky. Introduction to Linguistics is one of the most popular courses at MIT, and other MIT departments like economics and political science have been in most global top ten rankings since the 1930s, according to Nobles.



Women's soccer loses in penalties

Amy Apostol '19 scores two goals

By Max Berkowitz
DAPER STAFF

The first-seeded MIT women's soccer team saw its season come to a close in penalty kicks last Saturday afternoon against fourth-seeded Springfield College in the first of two New England Women's and Men's Athletic Conference (NEWMAC) semifinals matches at Steinbrenner Stadium on the campus of MIT on Saturday afternoon.

Tied at 2-2 after 110:00 minutes of action, the Engineers and the Pride headed to penalty kicks. Springfield hit four of its five shots to MIT's three, which included the game winner by senior Jessica Miller, as the Pride sealed their spot in the NEWMAC Championship match tomorrow.

Both squads had early opportunities with MIT Jennifer Ibanez '16 putting a shot on goal in the opening minute, but it was stopped short of the mark by sophomore goalkeeper Ciara Boucher for Springfield. Two minutes later the Pride had its first shot when Miller let one go that missed just to the left of the goal.

Springfield then found the mark on its next shot. Senior Nicole Fowler performed a flip throw in from the right side of the field five and a half minutes into the game as the ball came down in the MIT goal box at the feet of Miller, who was able to put in the back of the net for the first score of the game.

MIT nearly came up with the equalizer 19 minutes in when Allie Hrabchak '19 broke in behind the Springfield defense and rifled off a shot, but Boucher came out to challenge and managed to deflect the ball away with her feet. Springfield got off four more shots on goal over the final 15 minutes of the half, but Lauren Ullmann '17 saved them all to keep it a one-goal game at the break.

Like the first half, MIT had an early opportunity at the start of the second half, but this time it paid off. Olivia Struckman '18 played the ball into the middle from the right side and found fAmy Apostol '19, who turned it into the net to tie the game. Just two minutes later Fowler put Springfield back on top when she broke free 15 yards out from the goal, moved right, and fired a shot in to make it 2-1.

The Engineers found the game-tying goal at the 72:43 mark as Struckman fed the ball to Apostol, who buried her second tally of the contest, leaving the game even at 2-2, heading into extra time.

In the first overtime session, Struckman nearly potted the game winner just 2:24 in, but Boucher stood her ground in the box, which made for a second overtime period.

This time, Springfield came out with more urgency to score than it had in the first ten minutes of overtime. Only getting one shot off in the first OT frame, the Pride opened action in the second session with four consecutive shots, one saved by Ullmann and the others fluttering wide of the goal mouth.

Struckman, once again came alive in the second OT period as she closed the frame with a pair of shots, but neither team could find the back of the net, which sent the contest to decisive penalty kicks.

Apostol, Elizabeth Porter '17 and Ibanez all hit their penalty shots for the Engineers, but it wasn't enough as in the final round, Miller drove the winning shot into the back of the net that lifted Springfield to the victory (4-3 on penalties).

Ullmann made a season-high 12 saves for MIT, while Boucher stopped the ball seven times for Springfield. The Pride outshot the Engineers by a 29-15 margin and held a 7-5 advantage in corner kicks.

MIT (11-6-3) sees its season come to an end with the loss.



LENNY MARTINEZ—THE TECH

Amy A. Apostol '19 battles a Springfield College player for control of the ball during last Saturday's NEWMAC semifinal match. The Engineers lost to Springfield College in a penalty kick shootout 3-4.



LENNY MARTINEZ—THE TECH

Molly C. McNamara '16 dribbles the ball during the NEWMAC quarterfinal match against Mt. Holyoke College on Nov. 3. The Engineers lost to Mt. Holyoke 1-2, ending their 2015 season.

Late goals help Babson defeat men's soccer 2-1

Three points all came within 9 minutes

By Max Berkowitz
DAPER STAFF

Third-seeded Babson College defeated first-seeded MIT, ranked No. 17 in the latest National Soccer Coaches Association of America (NSCAA) poll and No. 3 in the NCAA New England Regional poll, 2-1, in the New England Women's and Men's Athletic Conference (NEWMAC) Men's Soccer Championship in come-from-behind fashion on Sunday afternoon at Steinbrenner Stadium.

With the win, Babson (12-6-2) claimed their seventh NEWMAC Men's Soccer Championship in program history and second in as many years and get an automatic bid to the 2015 NCAA Division III Men's Soccer Tournament, which begins on Thursday, November 12. Recipients of an at-large bid, MIT will be making the program's fifth appearance in the NCAA Tournament and will square off with Bridgewater State in the first round.

All three goals in the contest came over a stretch of eight and a half minutes, which began with an MIT marker at the 75:25 mark of the game. Austin Freel '16 fired a shot that was saved by Beaver's senior net minder Stephen Donato. Sean Bingham '16 picked up the rebound and planted it into the lower left corner of the net to give MIT a 1-0 lead.

Babson evened the game at 1-1 just 7:03 later when freshman Carlos Arujo was awarded a corner kick. Arujo blasted the corner into the box where senior Tyler Carlos headed the ball into the upper right corner of the net, giving the Beavers all of the momentum heading into the final minutes of action.

Carlos, the NEWMAC Men's Soccer Tournament's Most Outstanding Player, then lined up for a free kick from the 35 yard line with six minutes left on the clock. Sophomore Ian Cicalis scored the game winning goal and his first tally of the season, when he gathered the free kick and shot it past the reach of MIT goalie Jake Amereno '16.

MIT held a 15-8 advantage in shots and a 9-6 differential in corner kicks. Amereno made a pair of saves for the Engineers as his record moves to 15-2-1 this year, while Donato stopped the ball seven times improving his stat line to 11-4-2 in 2015.

Top-seeded women's volleyball loses to Babson

Third set is closely contested at NEWMAC championship tournament Saturday

By Mindy Brauer
DAPER STAFF

No. 4 seed Babson College defeated host and top-seeded MIT, 25-20, 25-11, 25-22, in the semifinals of the NEWMAC Championship Tournament on Saturday afternoon.

Senior Alicia Wilde led all players with 12 kills and added seven digs and three aces while classmate Mary Donahue was next with nine kills for Babson. Junior Lorraine Mackiewicz (Edison, N.J.) posted eight kills, six digs, and two aces as senior Elizabeth Sullivan collected a match-high nine digs. Senior Angela Price bolstered the back row with seven digs while junior Jenny Karnes chipped in two blocks. Senior Krissy Robertson rounded out the squad with 21 assists and two blocks.

Lisette Tellez '18 and junior Megan Gebhard '17 both had seven kills for the Engineers (28-3) as Tellez also tacked on six digs. Abby Bertics '19 contributed five kills while Jennie Glerum '17 notched five digs and two aces. Clare Farley '18 earned a team-high three aces as Fiona Tanuwidjaja '19 dished out 23 assists.

MIT held a 4-1 edge in the opening set following a Farley ace but Babson replied with a 10-4 run as a kill and an ace by Wilde put it up, 11-8. The visitors stayed in front until a kill from Alli Davanzo '19 along with two more aces by Farley evened the score at 13. After trading sideouts, the Beavers gained some breathing room courtesy of kills from Mackiewicz and Wilde. The Engineers then rattled off five straight points, including three Tellez kills, to claim a 19-16 lead. A serving error resulted in Babson capturing nine of the last 10 points to win the frame.

The Beavers carried the momentum into the second stanza as they raced out to a 10-3 advantage. Miscues in addition to a kill from senior Meryl Gibbs '16 brought MIT within four (11-7). However, this was as close as it would get as Babson mounted a 13-2 run, reaching set point on a strike by freshman Gizem Yilmaz. The Engineers extended the frame by capitalizing on a Gebhard kill and an attacking error but a serving miscue gave the Beavers the victory.

The final set was closely contested as it featured eight ties and three lead changes. With the score knotted at six, a trio of hitting errors along with a Glerum ace gave MIT a 10-6 lead. The Engineers maintained their small cushion for most of the frame as a kill by Gebhard moved the score to 15-11. A serving error sparked an 8-3 spurt with a Robertson block putting Babson in front, 19-18. An exchange of points ensued until back-to-back hits from Donahue gave the Beavers a 22-20 edge. A Gebhard strike cut the deficit in half but Mackiewicz and Wilde responded with kills of their own to capture match point at 24-21. Bertics's kill kept the Cardinal and Gray alive, but Wilde secured the win with her 12th kill of the day.


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